

t30_hilbert3 (TMbPpbTReakQP- MmT6NhNUDnVncuR4HqCp6L)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_hilbert3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_hilbert2 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_hilbert3 : \iota \Rightarrow \iota$ be given. Let $k1_hilbert1 : \iota$ be given. Let $k2_hilbert1 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (2)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (3)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v4_relat_1 X0 \\ & k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 X0 k5_numbers)))) \Rightarrow \\ & ((v1_relat_1 (k2_hilbert3 X0)) \wedge ((v4_relat_1 (k2_hilbert3 X0) \\ & k1_hilbert1) \wedge ((v1_funct_1 (k2_hilbert3 X0)) \wedge (v1_partfun1 (\\ & k2_hilbert3 X0) k1_hilbert1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (m1_subset_1 (k1_hilbert2 X0) k1_hilbert1) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v4_relat_1 X0 \\ k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 X0 k5_numbers)))))) \Rightarrow \\ (\forall X1.(m1_subset_1 X1 k1_hilbert1) \Rightarrow (k3_hilbert3 X0 X1 = \\ k1_funct_1 (k2_hilbert3 X0) X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v4_relat_1 X0 \\ k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 X0 k5_numbers)))))) \Rightarrow \\ (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k1_hilbert1) \wedge (\\ (v1_funct_1 X1) \wedge (v1_partfun1 X1 k1_hilbert1)))))) \Rightarrow ((X1 = k2_hilbert3 \\ X0) \Leftrightarrow ((k1_funct_1 X1 k2_hilbert1 = np_1) \wedge ((\forall X2.(m2_subset_1 \\ X2 k1_numbers k5_numbers) \Rightarrow (k1_funct_1 X1 (k1_hilbert2 X2) = k1_funct_1 \\ X0 X2)) \wedge (\forall X2.(m1_subset_1 X2 k1_hilbert1) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 k1_hilbert1) \Rightarrow ((k1_funct_1 X1 (k4_hilbert1 X2 \\ X3) = k2_zfmisc_1 (k1_funct_1 X1 X2) (k1_funct_1 X1 X3)) \wedge (k1_funct_1 \\ X1 (k3_hilbert1 X2 X3) = k1_funct_2 (k1_funct_1 X1 X2) (k1_funct_1 \\ X1 X3)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ ((v1_relat_1 X1) \wedge ((v2_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ ((v1_funct_1 X1) \wedge (v1_partfun1 X1 k5_numbers)))))) \Rightarrow (k3_hilbert3 \\ X1 (k1_hilbert2 X0) = k1_funct_1 X1 X0)) \end{aligned}$$